

RACHEL CARSON NATIONAL WILDLIFE REFUGE

Wells, Maine

**ANNUAL NARRATIVE REPORT
Calendar Year 1993**

**U.S. Department of the Interior
Fish and Wildlife Service**

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K. FEEDBACK

L. INFORMATION PACKET (Inside back cover)

A. HIGHLIGHTS

Cheryl Simpson transferred to the region as the Maine outreach and education program planner to work on the refuge visitor center project.

The assistant manager and office assistant positions were filled in early summer bringing the total staff to three.

The refuge received \$2 million for land acquisition in the FY 94 budget.

B. CLIMATIC CONDITIONS

Local climatic data was unavailable for the year however some data was collected at the refuge office. A major snowstorm that hit the Atlantic coast in March deposited over 18 inches of snow at the office. It took two days to get the parking area and driveway plowed. July was very hot and dry, temperatures were above 90 degrees for two weeks with a high of 98. As a result the fire danger was extreme. The first snow of the 93-94 winter dropped 10 inches on December 29.

C. LAND ACQUISITION

1. Fee Title

The refuge received \$2 million for land acquisition in FY 94. With a long list of willing sellers with property values well in excess of the \$2 million, the funds were a welcomed addition to the budget.

Approximately 102.72 acres were acquired during Fiscal Year 94 in the Mousam, Biddeford, Upper Wells and Kittery divisions.

2. Easements

An additional 13.96 acres in the Mousam division that was originally planned for acquisition as fee title was put under a conservation easement during the year.

3. Other

Revenue sharing payments made during 1993 for 1992 were:

Cumberland County

Cape Elizabeth	\$ 33.00
Scarborough	<u>1,683.00</u>
Cumberland Total	\$ 1,716.00

York County

Saco	\$ 9,764.00
Old Orchard Beach	342.00
Biddeford	1,737.00
Kennebunkport	3,323.00
Kennebunk	5,121.00
Wells	11,393.00
Ogunquit	95.00
York	1,013.00
Kittery	<u>4,322.00</u>
York Total	<u>\$ 32,788.00</u>
Grand Total	<u>\$ 34,504.00</u>

D. PLANNING

Several plan updates and initiations were made when the compatibility determination training and accomplishment efforts took over. Most planning efforts were left for completion following the primary compatibility thrust. Including a new concept in "Master Planning" the Comprehensive Management Plan. A planning session was held with numerous individuals from the Regional Office, Patuxant, and other FWS offices attending and providing input into the development of the plan.

E. ADMINISTRATION

1. Personnel

By June the refuge had filled three of the six positions authorized for the station with the arrival of Assistant Manager Graham Taylor in late June and Office Assistant Mike Froias in late May.

Personnel

Debra Kimbrell-Anderson, Refuge Manager	GS-11	EOD 1/29/92
Graham Taylor, Assistant Refuge Manager	GS-07	EOD 6/27/93
Mike Froias, Office Assistant	GS-5	EOD 5/ /93

Refuge Operations Specialist Taylor attended a two day workshop Rehabilitating Oiled Wildlife.

4. Volunteer Program

Nan Schildroth has been working at the refuge 24 hours each week since February and assisting the refuge in many ways. Nan has functioned as a receptionist and ORP by staffing a table at festivals, greeting and talking to various groups, answering the phones and greeting refuge visitors.

Nancy McReel has been conducting bird surveys at three of the refuge units throughout the year.

5. Funding

The station's fund target for FY 93 was \$121,609. This included \$10,000 for base maintenance and \$99,849 for "Minimum Level." Additional projects included wetland restoration (\$5,000), Port-o-lets (\$1,260), sign printing (\$3,000), Carson Trail repairs (\$500), portable radios (\$1,500/9120 fund), and NUS supplies (\$500/9120 funds).

6. Safety

Refuge staff attended a defensive driving class held at Parker River NWR in November.

The wood stove flues at the residence were cleaned out prior to the winter season.

F. HABITAT MANAGEMENT

1. General

The type of habitats found on Rachel Carson NWR are quite diverse. Coastal saltmarsh is at its northern limits in Southern Maine. The rocky coast typical of the state is also present and interspersed with sandy shores and barrier beach islands.

The need for cover type maps for all ten divisions of the refuge was again noted during the comprehensive conservation planning session in December. An effort to develop maps will begin in 1994 for the Upper and Lower Wells Divisions and continue as funds and manpower allow, until all ten divisions are completed.

2. Wetlands

Tidal saltmarsh constitutes the majority of wetlands occurring on Rachel Carson NWR. The dike of a small pond located on the Mousam River division blew out during the winter. Refuge staff met with the North zone biologist to inspect the problem and look at options for the pond. A small water control structure was purchased to be installed giving us some management capabilities. Funding was provided in FY 94 to complete the project with regional equipment and operators.

The large wetland project proposed on Brown Street of the Upper Wells division is still on hold pending obtaining permits and ES approval. The project entails the conversion of 8-12 acres of forested wetland to a managed shallow wetland. It is anticipated that the overall benefits to wildlife diversity will far outweigh the changes to the existing habitat.

A small one acre seasonal wetland was restored on a portion of the Wells Reserve. A ditch plug was constructed with natural spillways and seeded. The wetland had been drained by a small ditch and culvert.

3. Forests

Forested uplands constitute less than 25 percent of the total acreage of the refuge at this time. The forested areas are primarily of the oak-hemlock-white pine community typical of southwest coastal Maine.

5. Grasslands

A special use permit was issued to cut about three acres of grasslands adjacent to a landowner, Robert Littlefield, on the Moody division. This annual cutting is permitted in order to maintain habitat diversity.

8. Fire Management

In October, ROS Taylor assisted Parker River NWR with the prescribed burn of two impoundments at that refuge.

G. WILDLIFE

1. Wildlife Diversity

A wide variety of species utilize the refuge due to the diversity of habitats both on and adjacent to the refuge. Some 250 bird species are listed on the bird list and many mammal and reptile species are also present, some at the limits of their ranges.

2. Endangered and/or Threatened Species

Below is a current listing of endangered and threatened species for the State of Maine that occur or may occur on the refuge:

<u>Species</u>	<u>Status</u>
Bald Eagle - <u>Haliaeetus leucocephalus</u> *	Endangered
Golden Eagle - <u>Aquila chrysaetos</u>	Endangered
Peregrine Falcon - <u>Falco peregrinus</u> *	Endangered
Tundra Peregrine Falcon - <u>Falco peregrinus tundrius</u> **	Threatened
Piping Plover - <u>Charadrius melodus</u> **	Endangered
Roseate Tern - <u>Sterna dougallii</u> *	Endangered
Least Tern - <u>Sterna antillarum</u>	Endangered
Sedge Wren - <u>Cistothorus platensis</u>	Endangered
Grasshopper Sparrow - <u>Ammodramus savannarum</u>	Endangered
Box Turtle - <u>Terrapene carolina</u>	Endangered
Blanding's Turtle - <u>Emydoidea blandingii</u>	Threatened
Spotted Turtle - <u>Clemmys guttata</u>	Threatened
Black Racer - <u>Coluber constrictor</u>	Endangered

* Federally listed Endangered Species

**** Federally listed Threatened Species**

Bald eagles are sighted mostly during the winter months feeding along rivers. None were reported to us in 1993.

Peregrine falcons are observed during the fall migration as they move down the coast. Two sightings were reported for October, one over the marsh East of the refuge headquarters and one at the Biddeford Pool division.

Roseate terns are occasionally observed feeding in the rivers of the refuge. Several islands offshore support nesting colonies of this species and are designated by the state as essential habitat.

Piping plover utilize several areas of the refuge. In 1993, several individuals were observed on the Gooserocks division. No pairs were reported to be nesting on the refuge but do nest immediately adjacent to refuge lands. The refuge works cooperatively with Maine Department of Inland Fisheries and Wildlife and the Maine Audubon Society to monitor plover activity within and adjacent to the refuge. One area known as Crescent Surf Beach is currently being considered for acquisition on the Upper Wells division. This site supported 4 pair of plovers in 1993 that fledged 16 chicks, a 100 percent success rate.

Least Terns also utilize the refuge in many of the same locations as piping plover. Crescent Surf Beach supports the largest colony of least terns in Maine. In 1993, this colony consisted of 64 pairs and fledged 62 young. These figures represent over 50 percent of the totals for the entire population in the State of Maine.

3. Waterfowl

The refuge was originally established to protect the coastal marshes and estuaries of southern Maine. These areas provided important migration and wintering habitat for waterfowl, primarily the black duck, and other species of wildlife. This still holds true today as the refuge provides for some 26 species of waterfowl during the year. Four other species, including harlequin and canvasback, occasionally utilize the refuge also.

No formal waterfowl surveys were conducted by refuge staff during the year. A volunteer provides monthly observation data for three divisions; Biddeford Pool, Upper Wells and Moody.

The Maine DIF&W Mid-Winter Inventory is conducted along the coast in January each year. The southern Maine coastal area includes the refuge and is designated as zone 8. The 1993 survey showed 15,626 birds for the area with eider (11,317), scoters (2,257) and black duck (1,108) the most abundant species present. Statewide the black duck total was 17,776 up 18 percent from 1992.

4. Marsh and Water Birds

Several species including glossy ibis, snowy egret, and little blue heron utilize the marshes of the refuge during the year. Two species currently nest on the refuge, green-backed heron and the black-crowned night heron. Observations are recorded by the volunteer conducting surveys of the Biddeford Pool, Upper Wells and Moody divisions.

5. Shorebirds, Gulls, Terns and Allied Species

The refuge provides important migration habitat for a variety of shorebird species. The Biddeford Pool division is heavily utilized by shorebirds during the year. No formal surveys are currently conducted by refuge staff, the volunteer mentioned in sections G. 3&4 does record numbers for the areas she surveys.

6. Raptors

Several species utilize the refuge during the year. Three species have been confirmed as breeding on the refuge, sharp-shinned and coopers hawks and great horned owl. The northern goshawk, red-shouldered, red-tailed and broad-winged hawks as well as the American kestrel and barred owl are probable breeders. Other species present at various times include osprey northern harrier, merlin, short-eared owl, northern saw-whet owl and snowy owl.

Osprey were observed taking what were believed to be menhaden from the rivers adjacent to the Carson Trail which is located behind the refuge office.

7. Other Migratory Birds

The refuge provides nest boxes for eastern bluebirds throughout the refuge. These boxes are currently in habitat favoring tree swallows which utilize them readily. Nest boxes will be relocated in 1994 to more appropriate habitat for bluebirds.

Local landowners adjacent to the Brave Boat Harbor division requested a special use permit to place nesting boxes for tree swallows as a means of mosquito control. Eight boxes were placed out in 1993 with use in seven of the boxes, two were utilized twice. This program models a similar one in Rye, NH which is having success in attracting swallows, though their effectiveness in mosquito control remains to be seen. The group of landowners has requested approval to expand the program by an additional 100 boxes. This request is currently being reviewed to determine the maximum number we will approve.

A request for a special use permit to conduct surveys for scarlet tanagers as part of the Cornell project was received during the year, but was never issued or picked up by the observer. The observer will be contacted in 1994 to see if interest in the project remains.

8. Game Mammals

White-tailed deer are common throughout all of the divisions. The Upper Wells division contains the largest concentrations due to a State designated wildlife sanctuary that overlays the area and precludes hunting.

The number of moose sightings on the refuge and adjacent lands continues to increase each year. Sightings of several adults and cows with calves are being reported. Sightings were reported on the Upper Wells and Mousam River divisions.

Some of the other mammal species found on the refuge include coyote, red and gray fox, fisher, porcupine, river otter, and mink.

9. Marine Mammals

Harbor seals are found throughout the refuge. The Wells Harbor area is usually utilized as a "haul out" by as many as 30 seals.

11. Fisheries Resources

Schools of fish believed to menhaden were sighted in July and August in the Merriland River and Branch Brook which flow along the Carson Trail. The schools were estimated to contain from 2,000-3,000 fish and were frequently observed.

H. PUBLIC USE

1. General

Rachel Carson NWR is spread along 45 miles of the southern Maine coastline between Portsmouth, NH and Portland, ME. This stretch of coast also contains Maines' only sandy beaches and attracts approximately 70 percent of the estimated 9 million visitors to the state.

Visitors came from 42 states, Washington DC, Canada and around the World including Japan, New Zealand, Australia, Chile, Argentina, Kenya, Zimbabwe, and several European countries.

4. Interpretive Foot Trails

The Carson Trail is located at the refuge headquarters on the Upper Wells division. This self guided loop trail is approximately one mile long and wheelchair accessible. The trail winds through the uplands and along the edge of the saltmarsh and is the only developed public use trail on the refuge.

The number of visitors estimated to use the Carson Trail in 1993 was 36,000. These numbers are based on visitor log sheets which were not available the entire year. A trail counter was purchased in late summer and will provide more reliable information on future visitor numbers.

In May approximately 200 Girl Scouts visited the refuge and walked the trail after an introduction from the refuge manager.

June was a popular time for students to visit and walk the trail. Approximately 220 students from several area schools visited the refuge.

In October Kennebunk Kindergarten school brought 92 students to the Carson Trail. Refuge staff greeted the students and gave them a brief introduction to the refuge. Mark Trail coloring books were handed out after their trail walk and were a big hit.

7. Other Interpretive Programs

Refuge staff and volunteers provided information about the Service and Rachel Carson NWR at two festivals during 1993. One festival was at the Wells Reserve in September which attracted approximately 8000 people. The second was the Maine Common Ground Fair, an Environmental Festival in August which attracted an estimated 50,000 people.

8. Hunting

Seven of the refuges 10 divisions are open to hunting of one type or another. All are open to deer hunting and six are open to migratory game bird hunting which includes waterfowl and woodcock. Small game hunting is also permitted on those divisions open to hunting.

Waterfowl hunting pressure was generally light with the exception of opening days and Saturdays which are typically popular days. Black ducks were the most frequently harvested species based on field checks conducted during the season. Four special use permits were issued for seasonal hunting blinds, two each on the Upper Wells and Gooserocks divisions. The permits require that the blinds are available to anyone on a first come first serve basis and be removed 15 days after the season closes.

Deer hunting was heaviest opening and closing days. The Brave Boat Harbor and Upper Wells divisions have the highest use. The harvest was apparently light as most hunters contacted were not having any success, at the close of the firearm season a 200+ pound buck was harvested adjacent to the Brave Boat Harbor division and is reportedly the biggest taken for York County in 1993. Hunting is permitted by archery or shotgun only due to the proximity of homes and businesses to the refuge. Most of the communities either have or are considering ordinances to ban hunting with rifles in those areas heavily populated which would include the refuge.

A local sportsman's group raises and releases ring-neck pheasant on property near the Lower Wells division during small game season. During that time hunting activity is heavy in that area since some birds do make it to the refuge and just about everybody knows of the program.

9. Fishing

The refuge currently does not allow any fishing although people can fish from boats in the waterways that run through the refuge. Freshwater opportunities do not exist on the refuge, all fishing activity is for saltwater species.

11. Wildlife Observation

Other than the Carson Trail, there are no designated trails on the refuge. Opportunities for viewing wildlife do occur on most of the refuge divisions from roads that pass through them. On the Brave Boat Harbor and Mousam River divisions abandoned trolley grades pass through those divisions and are used by locals. An estimated 50,000 visits were generated to the refuge for wildlife viewing and photography in 1993.

14. Picnicking

Two picnic tables are located at the refuge information kiosk and beginning of the Carson Trail. These tables are heavily used by visitors and school groups visiting the refuge and walking the trail.

17. Law Enforcement

Hunting packages were distributed to police departments which have refuge lands open to hunting within their jurisdiction. In Maine hunting and fishing licenses are issued by the town clerks so they were also provided a copy in case anyone asked about the refuge.

High staff turnover, vacancies and changing refuge hunting regulations created confusion for hunters and enforcement officers the last few years. Efforts were initiated this year to clarify the confusion by providing better maps of hunting areas and information about refuge regulations. A meeting was held in October with the Wells police department to explain refuge hunting regulations. A warden from the Maine Warden Service also discussed State regulations.

During the hunting season all of the refuges divisions were checked for hunting activity. Field checks were conducted with all individuals contacted. Most individuals were generally surprised to be contacted by a Federal officer and stated they had not been checked in three years or more. This however, is the same comment heard by other staff in previous years. Several warnings were issued for minor violations of refuge regulations and one citation was issued for hunting without a State waterfowl stamp.

Illegal snowmobiling continues to be a problem. This activity should diminish with increased patrols and by getting the word out about the refuge and what activities are permitted.

Refuge Officers Kimbrell-Anderson and Taylor attended the annual LE refresher training in April at Patuxent Wildlife Research Center in Maryland. Officers Kimbrell-Anderson and Taylor completed a four hour drug review session in October at Augusta. Both officers also qualified with their service weapons and shotgun in November at the Wells PD range.

1. EQUIPMENT AND FACILITIES

2. Rehabilitation

The battery was replaced in the Dakota in July.

Both the Dodge Dakota and Jeep Cherokee received their 30,000 mile service in November prior to the winter.

The compu-tech road counter that was installed under the entrance road was shipped to the manufacturer for repairs. It is unknown how long the unit had been broken. The unit will be reinstalled in the spring.

3. Major Maintenance

The annual snowmelt, spring rains and frozen ground brought flooding to the refuge office. When the office was constructed in 1990, the parking lot was finished slightly higher and sloped toward the building. Consequently with nowhere for the water to go and unable to pass through the ground it ends up in our building. By the end of 1993 the problem still exists but efforts to remedy the problem in 1994 are underway.

In September electrical service to the quarters septic system pump was rewired and an audible alarm installed in the house. The previous electrical work consisted of a standard outlet inside the tank and the pump plugged in. The plug eventually worked free of the outlet and quit working. The problem was identified when it all backed up into the basement.

Inspection of the refuge boundaries were started in December at the Brave Boat Harbor division.

In preparation of boundary posting 480 sign posts were ordered.

Approximately 48 cubic yards of stone dust were received in September. The stone dust will be used to make repairs to the Carson Trail next spring.

Two water control structures were purchased for projects on the Mousam River and Upper Wells divisions.

4. Equipment Utilization and Replacement

A compu-Tech trail counter with an infra-red system was received and installed on the Carson Trail in October. This will provide

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4. Equipment Utilization and Replacement

A compu-Tech trail counter with an infra-red system was received and installed on the Carson Trail in October. This will provide more accurate information as to the number of visits the trail is receiving.

A new Canon copier was received during the year and the old copier loaned to the FWS State of Maine planner.

5. Communications Systems

Portable and mobile radios with high band were received at the station during the year. Local police department frequencies were programmed into the units enabling us to have emergency communications as needed.

6. Computer Systems

Three new computers were purchased in 1993. The station received new Zeos 486's, a full page scanner, a HP 1200C ink jet printer, and software. This has greatly enhanced our capabilities and output at the refuge. A laptop computer has also been ordered but not received as of the end of 1993.

J. OTHER ITEMS

3. Items of Interest

Jim and Mildred Clark met with refuge staff and discussed the refuge. The Clarks write the quarterly Refuge Reporter.

4. Credits: Assistant Manager, Graham Taylor